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What is claimed is:

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A process for removing biofilm from a medical unit water line, the process comprising:

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providing a medical unit water line, the water line being contaminated with a naturally acquired biofilm; and

filling the medical unit water line with an aqueous solution containing an iodide salt, an organic acid, and one or more oxidizing agents; and

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allowing the solution to remain in the water line for a period sufficient to remove the biofilm; and

flushing the medical unit water line with water.

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The process in claim 1 wherein the medical unit water line has been exposed to a backflow of human saliva.

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The process of claim 1 wherein the medical unit water line has a maximum inner diameter of approximately 3.5 mm.

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The process of claim 1 wherein the medical unit water line is a dental unit water line.

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The process of claim 9 wherein the iodide salt is present as a sodium or potassium salt.

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10 The process of claim 1 wherein the organic acid is citric acid.

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The process of claim 1 wherein the oxidizing agents are chosen from the group consisting of sodium persulfate, sodium percarbonate, sodium perborate and urea hydrogen peroxide.

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The process of claim 1 wherein the solution is not corrosive to plastic or metal parts of the water line.

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The process of claim 1 wherein the water lines are free of residual biofilm removing solution after completion of the process.

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The process of claim 1 wherein the solution is not toxic.

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A composition for removing biofilm from a medical unit water line, the composition  
10 consisting of an aqueous solution containing approximately 0.25% sodium iodide,  
1.6% citric acid, 0.2% sodium percarbonate.

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The composition of claim 11 wherein sodium percarbonate is present at  
15 approximately 0.09% to 0.2%

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The composition of claim 11 wherein the oxidant component in the solution is a  
combination of approximately 0.8% sodium percarbonate and 0.033% sodium  
20 percarbonate.

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The composition of claim 11 wherein the oxidant component in the solution is a combination of approximately 0.033% sodium percarbonate and 0.08% to 0.16% sodium perborate.

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The composition of claim 11 wherein the oxidant component in the solution is a combination of approximately 0.033% sodium percarbonate and 0.075% to 0.15% hydrogen peroxide.

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A process for removing biofilm from a medical unit water line, the process comprising

providing a medical unit water line, the water line being contaminated with a naturally acquired biofilm;; and

filling the medical unit water line with a solution containing at least approximately 0.25 g sodium iodide, 1.6 g citric acid, 0.8 g sodium persulfate, and 0.03 g sodium percarbonate dissolved in 1 liter of water; and

allowing the solution to remain in the water line for a period sufficient to remove the biofilm; and

flushing the medical unit water line with water; and

wherein the solution contains no horse radish peroxidase.

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The process of claim 16 wherein the medical unit water line has been exposed to a backflow of human saliva.

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The process of claim 16 wherein the medical unit water line has a maximum inner diameter of approximately 3.5 mm.

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The process of claim 16 wherein the medical unit water line is a dental unit water line.

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5 The process of claim 16 wherein the solution is not biologically sensitizing.

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The process of claim 16 wherein the solution is not corrosive to plastic or metal parts of the water line.

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10 The process of claim 16 wherein the water lines are free of residual chemicals from the solution after completion of the process.

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The process of claim 16 wherein the solution is not toxic.

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15 A composition for removing biofilm from a medical unit water line, the composition consisting of

a solution containing approximately 0.25 g sodium iodide, 1.6 g citric acid, 0.8 g sodium persulfate, and 0.03 g sodium percarbonate dissolved in 1 liter of water.